Terms used
breeding and **multiple** **near/2** **population** and **genetic** **near/2** **algorithm**

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21 Evolutionary computation and optimization (ECO): An improved hybrid genetic algorithm for the generalized assignment problem
Harald Feltl, Günther R. Raidl
March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**
Full text available: pdf(232.14 KB) Additional Information: full citation, abstract, references

We consider the generalized assignment problem in which the objective is to find a minimum cost assignment of a set of jobs to a set of agents subject to resource constraints. The presented new approach is based on a previously published, successful hybrid genetic algorithm and includes as new features two alternative initialization heuristics, a modified selection and replacement scheme for handling infeasible solutions more appropriately, and a heuristic mutation operator. Tests are performed ...

Keywords: generalized assignment problem, hybrid genetic algorithm, linear programming

22 Mobile computing and applications (MCA): A call admission control scheme using genetic algorithms
Dilek Karabudak, Chih-Cheng Hung, Benny Bing
March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**
Full text available: pdf(281.73 KB) Additional Information: full citation, abstract, references, index terms

Next Generation Wireless Systems (NGWS) will provide a variety of services to mobile users including high speed data, real-time applications and real-time multimedia support with a certain quality of service (QoS) level. An efficient handoff management is one of the key issues in order to support global roaming of the mobile users among different network architectures of the NGWS.In this paper, a new call admission control scheme, Genetic-based call admission control (GAC), is proposed for NGWS. ...

Keywords: Call Admission Control (CAC), Genetic Algorithms, Markov Decision Model, Next Generation Wireless Systems (NGWS), handoff management

23 Parallel and distributed systems and networking: DEVOpT: a distributed architecture supporting heuristic and metaheuristic optimization methods
Eder N. Mathias, Celso M. da Costa, Fernando L. Dotti, Felipe M. Müller
March 2002 **Proceedings of the 2002 ACM symposium on Applied computing**
Full text available: pdf(834.81 KB) Additional Information: full citation, abstract, references, index terms

This paper presents a distributed software architecture that allows the cooperation among

research institutions in [redacted] field of Combinatorial Optimization - [redacted] *EVOpT*: Distributed Evolutionary Optimization Centers. It has as main aims to share existing algorithms for optimization problems, to allow the easy testing of these algorithms with existing instances, to provide fast and better ways to design new algorithms, and to share computational power among the cooperating institutions. This ...

Keywords: distributed environment, heuristics and metaheuristics, master-slave approach, optimization algorithms

24 On the evolution of complex genomes: adaptive graph computations with a CM-2 connection machine

A. Aggarwal, S. Sarkar

March 1992 **Proceedings of the 1992 ACM/SIGAPP symposium on Applied computing: technological challenges of the 1990's**

Full text available: pdf(971.00 KB) Additional Information: full citation, references, index terms

25 Scalability of an MPI-based fast messy genetic algorithm

Laurence D, Merkle, George H. Gates, Gary B. Lamont

February 1998 **Proceedings of the 1998 ACM symposium on Applied Computing**

Full text available: pdf(678.15 KB) Additional Information: full citation, references, index terms

Keywords: fixed solution quality, messy genetic algorithms, parallel genetic algorithms, polypeptide structure prediction, population sizing

26 Performance evaluation of multiple time scale TCP under self-similar traffic conditions

Kihong Park, Tsunyi Tuan

April 2000 **ACM Transactions on Modeling and Computer Simulation (TOMACS)**, Volume 10 Issue 2

Full text available: pdf(264.71 KB) Additional Information: full citation, abstract, references, index terms

Measurements of network traffic have shown that self-similarity is a ubiquitous phenomenon spanning across diverse network environments. In previous work, we have explored the feasibility of exploiting long-range correlation structure in self-similar traffic for congestion control. We have advanced the framework of multiple time scale congestion control and shown its effectiveness at enhancing performance for rate-based feedback control. In this article, we extend the multiple time scale co ...

Keywords: TCP, congestion control, multiple time scale, network protocols, performance evaluation, self-similar traffic, simulation

27 Empirical knowledge and genetic algorithms for selection of amide I frequencies in protein secondary structure prediction

Joachim A. Hering, Peter R. Innocent, Parvez I. Haris

January 2004 **Proceedings of the second conference on Asia-Pacific bioinformatics - Volume 29**

Full text available: pdf(260.12 KB) Additional Information: full citation, abstract, references

Here we investigate an extension of a previously suggested "automatic amide I frequency selection procedure" where we introduce an additional criterion utilizing empirical knowledge on regions within the amide I band (1600--1700 cm^{-1}) found to be particularly sensitive to protein secondary structure. We show that the genetic algorithm provides a solution with good protein secondary structure prediction accuracy.Based on an evaluation set of 13 protein infrared spectra from proteins no ...

Keywords: FTIR spect[redacted]copy, empirical knowledge, genetic al[redacted]thms, neural networks, protein secondary structure prediction

28 New algorithms for gate sizing: a comparative study

Olivier Coudert, Ramsey Haddad, Srilatha Manne

June 1996 **Proceedings of the 33rd annual conference on Design automation conference**

Full text available: pdf(245.01 KB) Additional Information: full citation, references, citings, index terms

29 Evolving and messaging decision-making agents

Edmund S. Yu

May 2001 **Proceedings of the fifth international conference on Autonomous agents**

Full text available: pdf(240.53 KB) Additional Information: full citation, abstract, references, index terms

In this paper we describe our neurogenetic approach to developing a multi- agent decision support system which assists users in gathering, merging, analyzing, and using information to assess risks and make recommendations in situations that may require tremendous amounts of time and attention of the users. In Phase I of this project, called the EMMA project, we demonstrated the feasibility of a set of solutions to various problems by building an intelligent agent application that makes reco ...

Keywords: adaptation and learning, agent communication languages, evolution of agents, information agents, multi-agent communication/collaboration

30 Evolutionary computation and optimization (ECO): Using a genetic algorithm to optimize the gape of a snake jaw

C. W. Liew

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available: pdf(127.91 KB) Additional Information: full citation, abstract, references

GA's have more success with optimizing a single configuration than with optimizing multiple configurations with connectivity constraints tying them together, i.e., variable geometry problems such as designing the variable geometry wings of a plane. This paper describes a GA based approach to solve variable geometry optimization problems where (a) the connectivity requirement cannot be easily specified or tested, (b) the space of configurations is made up of multiple disconnected spaces, thus mak ...

31 The selfish gene algorithm: a new evolutionary optimization strategy

Fulvio Corno, Matteo Sonza Reorda, Giovanni Squillero

February 1998 **Proceedings of the 1998 ACM symposium on Applied Computing**

Full text available: pdf(706.93 KB) Additional Information: full citation, references, citings, index terms

Keywords: genetic algorithm, selfish gene

32 The effect of population structure on the rate of convergence of genetic algorithms

Po Hsiang Chu, Susan A. Dudley

March 1993 **Proceedings of the 1993 ACM/SIGAPP symposium on Applied computing: states of the art and practice**

Full text available: pdf(502.80 KB) Additional Information: full citation, references, index terms

Keywords: distributed genetic optimization, genetic algorithm, graph coloring, population

structure, traveling sale[illegible]an

33 On genetic algorithms
Eric B. Baum, Dan Boneh, Charles Garrett
July 1995 **Proceedings of the eighth annual conference on Computational learning theory**
Full text available: pdf(1.13 MB) Additional Information: full citation, references, index terms

34 Using a genetic algorithm to find good linear error-correcting codes
Kelly M. McGuire, Roberta Evans Sabin
February 1998 **Proceedings of the 1998 ACM symposium on Applied Computing**
Full text available: pdf(470.83 KB) Additional Information: full citation, references, index terms

Keywords: genetic algorithm, linear error correcting codes

35 A hybrid genetic algorithm for the point to multipoint routing problem with single split paths
Pablo Galiasso, Roger L. Wainwright
March 2001 **Proceedings of the 2001 ACM symposium on Applied computing**
Full text available: pdf(84.61 KB) Additional Information: full citation, references, index terms

Keywords: Steiner trees, genetic algorithm, point to multipoing routing, telecommunications network

36 Mobile computing and applications (MCA): A comparison of randomized and evolutionary approaches for optimizing base station site selection
Larry Raisanen, Roger M. Whitaker, Steve Hurley
March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**
Full text available: pdf(294.33 KB) Additional Information: full citation, abstract, references

It is increasingly important to optimally select base stations in the design of cellular networks, as customers demand cheaper and better wireless services. From a set of potential site locations, a subset needs to be selected which optimizes two critical objectives: service coverage and financial cost. As this is an NP-hard optimization problem, heuristic approaches are required for problems of practical size. Our approach consists of two phases which act upon a set of candidate site permutatio ...

Keywords: base station selection, cell planning, multiple objective optimization

37 Evolutionary computation and optimization (ECO): Genetic Programming for data classification: partitioning the search space
Jeroen Eggermont, Joost N. Kok, Walter A. Kosters
March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**
Full text available: pdf(167.81 KB) Additional Information: full citation, abstract, references, index terms

When Genetic Programming is used to evolve decision trees for data classification, search spaces tend to become extremely large. We present several methods using techniques from the field of machine learning to refine and thereby reduce the search space sizes for decision tree evolvers. We will show that these refinement methods improve the classification

performance of our algorithms.

Keywords: data classification, genetic programming

38 Diagnosis, parsimony, and genetic algorithms

Walter D. Potter, B. E. Tonn, M. R. Hilliard, G. E. Liepins, S. L. Purucker, R. T. Goeltz

June 1990 **Proceedings of the third international conference on Industrial and engineering applications of artificial intelligence and expert systems - Volume 1**

Full text available: pdf(1.02 MB) Additional Information: full citation, abstract, references, index terms

The Communication Alarm Processor Expert System (CAP), developed at Oak Ridge National Laboratory for the Bonneville Power Administration, is a near real-time system that aids microwave communication system operators with interpreting the cause of large communication system problems [Purucker89]. Problems in the communications network are indicated by the real-time arrival of alarms at the central control site. CAP receives and processes these alarms, then presents the operator with a sorte ...

39 Detecting multiple outliers in regression data using genetic algorithms

Kelly D. Crawford, Daniel J. Vasicek, Roger L. Wainwright

February 1995 **Proceedings of the 1995 ACM symposium on Applied computing**

Full text available: pdf(640.76 KB) Additional Information: full citation, references, index terms

Keywords: genetic algorithm, least squares, outhier, regression

40 The multiple container packing problem: a genetic algorithm approach with weighted codings

Günther R. Raidl

March 1999 **ACM SIGAPP Applied Computing Review**, Volume 7 Issue 2

Full text available: pdf(914.02 KB) Additional Information: full citation, abstract, index terms

This paper presents a genetic algorithm (GA) approach to the problem of choosing *C* disjoint subsets of *n* items to be packed into distinct containers, such that the total value of the selected items is maximized, without exceeding the capacity of each of the containers. This so-called multiple container packing problem (MCPP) has applications in naval as well as financial management. It is a hard combinatorial optimization problem comprising similarities to the knapsack problem and ...

Keywords: combinatorial optimization, hybrid genetic algorithm, multiple container packing problem, weighted coding

Terms used
breeding and **multiple** **near/2** **population** and **genetic** **near/2** **algorithm**

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1 Artificial intelligence approaches to software engineering: Using genetic algorithms and coupling measures to devise optimal integration test orders
Lionel C. Briand, Jie Feng, Yvan Labiche
July 2002 **Proceedings of the 14th international conference on Software engineering and knowledge engineering**
Full text available: pdf(94.62 KB) Additional Information: full citation, abstract, references, citings

We present here an improved strategy to devise optimal integration test orders in object-oriented systems. Our goal is to minimize the complexity of stubbing during integration testing as this has been shown to be a major source of expenditure. Our strategy to do so is based on the combined use of inter-class coupling measurement and genetic algorithms. The former is used to assess the complexity of stubs and the latter is used to minimize complex cost functions based on coupling measurement. Us ...

Keywords: genetic algorithms, integration order, integration testing, object-oriented software engineering

2 Learning methods to combine linguistic indicators: improving aspectual classification and revealing linguistic insights
Eric V. Siegel, Kathleen R. McKeown
December 2000 **Computational Linguistics**, Volume 26 Issue 4
Full text available: pdf(1.96 MB) Additional Information: full citation, abstract, references
Publisher Site

Aspectual classification maps verbs to a small set of primitive categories in order to reason about time. This classification is necessary for interpreting temporal modifiers and assessing temporal relationships, and is therefore a required component for many natural language applications.A verb's aspectual category can be predicted by co-occurrence frequencies between the verb and certain linguistic modifiers. These frequency measures, called linguistic indicators, are chosen by linguistic insi ...

3 The zero/one multiple knapsack problem and genetic algorithms
Sami Khuri, Thomas Bäck, Jörg Heitkötter
April 1994 **Proceedings of the 1994 ACM symposium on Applied computing**
Full text available: pdf(568.54 KB) Additional Information: full citation, references, citings, index terms

Keywords: 0/1 integer programming, combinatorial optimization, evolutionary computation,

genetic algorithm, multiple knapsack problem

4 Playing experience: Generative model for the creation of musical emotion, meaning, and form

David Birchfield

November 2003 **Proceedings of the 2003 ACM SIGMM workshop on Experiential telepresence**

Full text available: pdf(219.84 KB) Additional Information: full citation, abstract, references, index terms

The automated creation of perceptible and compelling large-scale forms and hierarchical structures that unfold over time is a nontrivial challenge for generative models of multimedia content. Nonetheless, this is an important goal for multimedia authors and artists who work in time-dependent mediums. This paper and associated demonstration materials present a generative model for the automated composition of music.The model draws on theories of emotion and meaning in music, and relies on researc ...

Keywords: arts, composition, digital audio, generative arts, generative model, generative system, genetic algorithm, multimedia, music, music cognition, music theory, perception

5 A sparse matrix representation for production scheduling using genetic algorithms

Simon J. T. Liang, John M. Lewis

February 1995 **Proceedings of the 1995 ACM symposium on Applied computing**

Full text available: pdf(579.43 KB) Additional Information: full citation, references, index terms

Keywords: genetic algorithms, job shop scheduling, representing

6 Learning Bayesian classification rules through genetic algorithms

Christoph F. Eick, Daw Jong

December 1993 **Proceedings of the second international conference on Information and knowledge management**

Full text available: pdf(848.77 KB) Additional Information: full citation, references, index terms

7 The genetic algorithm and the Prisoner's Dilemma

Benjamin Hosp

January 2004 **The Journal of Computing in Small Colleges**, Volume 19 Issue 3

Full text available: pdf(208.26 KB) Additional Information: full citation, abstract, references, index terms

The Prisoner's Dilemma is a game theory simulation used by sociologists to study human interactions. This game places two "players" in a situation wherein both of them, as a pair, would be better off if they cooperated with each other, but each of them, individually, is better off if he or she works towards his or her own selfish interests. However, when two players play this game repeatedly, cooperation becomes possible among rational players. In this paper, we will examine a method called the ...

8 Linear discriminant analysis using genetic algorithms

Aaron H. Konstam

March 1993 **Proceedings of the 1993 ACM/SIGAPP symposium on Applied computing: states of the art and practice**

Full text available: pdf(487.93 KB) Additional Information: full citation, references, citings, index terms, review

9 Evolving computer programs using rapidly reconfigurable field-programmable gate

arrays and genetic programming
John R. Koza, Forest H. Bennett, Jeffrey L. Hutchings, Stephen L. Bade, Martin A. Keane, David Andre
March 1998 **Proceedings of the 1998 ACM/SIGDA sixth international symposium on Field programmable gate arrays**
Full text available: pdf(1.37 MB) Additional Information: full citation, abstract, references, citings, index terms

This paper describes how the massive parallelism of the rapidly reconfigurable Xilinx XC6216 FPGA (in conjunction with Virtual Computing's H.O.T. Works board) can be exploited to accelerate the time-consuming fitness measurement task of genetic algorithms and genetic programming. This acceleration is accomplished by embodying each individual of the evolving population into hardware in order to perform the fitness measurement task. A 16-step sorting network for seven items was evolved that h ...

10 A simulation of adaptive agents in a hostile environment
Thomas D. Haynes, Roger L. Wainwright
February 1995 **Proceedings of the 1995 ACM symposium on Applied computing**
Full text available: pdf(669.79 KB) Additional Information: full citation, references, citings, index terms

Keywords: autonomous agent, genetic programming, parallel evaluation of fitness, variable fitness function

11 Genetic algorithms and machine learning
John J. Grefenstette
August 1993 **Proceedings of the sixth annual conference on Computational learning theory**
Full text available: pdf(203.34 KB) Additional Information: full citation, references, index terms

12 SIGSAM BULLETIN: Computer algebra in the life sciences
Michael P. Barnett
December 2002 **ACM SIGSAM Bulletin**, Volume 36 Issue 4
Full text available: pdf(240.15 KB) Additional Information: full citation, abstract, references

This note (1) provides references to recent work that applies computer algebra (CA) to the life sciences, (2) cites literature that explains the biological background of each application, (3) states the mathematical methods that are used, (4) mentions the benefits of CA, and (5) suggests some topics for future work.

13 Analysis methodology: A genetic algorithm and an indifference-zone ranking and selection framework for simulation optimization
Henrik E. Hedlund, Mansooreh Mollaghasemi
December 2001 **Proceedings of the 33nd conference on Winter simulation**
Full text available: pdf(369.29 KB) Additional Information: full citation, abstract, references, index terms

A methodology for optimization of simulation models is presented. The methodology is based on a genetic algorithm in conjunction with an indifference-zone ranking and selection procedure under common random numbers. An application of this optimization algorithm to a stochastic mathematical model is provided in this paper.

14 30 years of research in animal breeding: APL versus Matlab and Fortran
Marcos Rico, Manuel Baselga
June 2002 **ACM SIGAPL APL Quote Quad , Proceedings of the 2002 conference on APL: array processing languages: lore, problems, and applications**, Volume 32 Issue 4

Full text available: pdf(49.06 [redacted]) Additional Information: full citation, refer[redacted]es

15 Evolutionary computing and optimization: Co-evolving an effective fitness sample: experiments in symbolic regression and distributed robot control

Brad Dolin, Forrest H Bennett, Eleanor G. Rieffel

March 2002 **Proceedings of the 2002 ACM symposium on Applied computing**

Full text available: pdf(573.90 KB) Additional Information: full citation, abstract, references, index terms

We investigate two techniques for co-evolving and sampling from a population of fitness cases, and compare these with a random sampling technique. We design three symbolic regression problems on which to test these techniques, and also measure their relative performance on a modular robot control problem. The methods have varying relative performance, but in all of our experiments, at least one of the co-evolutionary methods outperforms the random sampling method by guiding evolution, with subst ...

Keywords: co-evolution, distributed control, fitness cases, genetic algorithms, genetic programming, robot control, symbolic regression

16 Introduction & overview of "artificial life"—evolving intelligent agents for modeling & simulation

A. Martin Wildberger

November 1996 **Proceedings of the 28th conference on Winter simulation**

Full text available: pdf(987.66 KB) Additional Information: full citation, references

17 Group classification using a mix of genetic programming and genetic algorithms

Aaron Konstam

February 1998 **Proceedings of the 1998 ACM symposium on Applied Computing**

Full text available: pdf(583.28 KB) Additional Information: full citation, references, index terms

Keywords: classification, discriminant functions, genetic algorithms, genetic programming

18 WSQ/DSQ: a practical approach for combined querying of databases and the Web

Roy Goldman, Jennifer Widom

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2

Full text available: pdf(223.65 KB) Additional Information: full citation, abstract, references, citings, index terms

We present WSQ/DSQ (pronounced "wisk-disk"), a new approach for combining the query facilities of traditional databases with existing search engines on the Web. WSQ, for *Web-Supported (Database) Queries*, leverages results from Web searches to enhance SQL queries over a relational database. DSQ, for *Database-Supported (Web) Queries*, uses information stored in the database to enhance and explain Web searches. This paper focuses primarily on WSQ, describing a simple, lo ...

19 Artificial evolution for computer graphics

Karl Sims

July 1991 **ACM SIGGRAPH Computer Graphics , Proceedings of the 18th annual conference on Computer graphics and interactive techniques**, Volume 25 Issue 4

Full text available: pdf(8.74 MB) Additional Information: full citation, references, citings, index terms

20 Transforming men into mice: the Nadeau-Taylor chromosomal breakage model revisited

Pavel Pevzner, Glenn Tesler

April 2003 **Proceedings of the seventh annual international conference on Computational molecular biology**

Full text available: pdf(317.01 KB) Additional Information: full citation, abstract, references, index terms

Although analysis of genome rearrangements was pioneered by Dobzhansky and Sturtevant 65 years ago, we still know very little about the rearrangement events that produced the existing varieties of genomic architectures. The genomic sequences of human and mouse provide evidence for a larger number of rearrangements than previously thought and shed some light on previously unknown features of mammalian evolution. In particular, they reveal extensive re-use of breakpoints from the same relatively s ...

Keywords: breakpoint re-use, evolution, genome rearrangements

Terms used **breeding** and **multiple near/2 population** Found **56,125** of **132,857**

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Best 200 shown Relevance scale

1 Learning methods to combine linguistic indicators: improving aspectual classification and revealing linguistic insights

Eric V. Siegel, Kathleen R. McKeown

December 2000 **Computational Linguistics**, Volume 26 Issue 4

Full text available: pdf(1.96 MB) Additional Information: full citation, abstract, references

Publisher Site

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3 30 years of research in animal breeding: APL versus Matlab and Fortran

Marcos Rico, Manuel Baselga

June 2002 **ACM SIGAPL APL Quote Quad , Proceedings of the 2002 conference on APL: array processing languages: lore, problems, and applications**, Volume 32 Issue 4

Full text available: pdf(49.06 KB) Additional Information: full citation, references

4 Economic effects of fluctuations in catches and population levels, upon a population of Alaska king crab

Philip L. Katz, James W. Balsiger, Robert H. Schappelle, Thomas R. Spinker

December 1977 **Proceedings of the 9th conference on Winter simulation - Volume 1**

Full text available: pdf(656.65 KB) Additional Information: full citation, abstract, references, index terms

A multiple-size-class model of the Bering Sea king crab fishery is presented, including a nonlinear, observation-based reproductive submodel, as well as measures of long-run and

short-run economic be[redacted]t. The model can simulate a wide vari[redacted] of equilibrium and non equilibrium fishing strategies. Demonstration cases show the importance of natural mortality parameters to the relationship between fishery management strategy and equilibrium yield, and give an example of alternating between tw ...

5 Performance evaluation of multiple time scale TCP under self-similar traffic conditions

Kihong Park, Tsunyi Tuan

April 2000 **ACM Transactions on Modeling and Computer Simulation (TOMACS)**, Volume 10 Issue 2

Full text available: pdf(264.71 KB) Additional Information: full citation, abstract, references, index terms

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Keywords: TCP, congestion control, multiple time scale, network protocols, performance evaluation, self-similar traffic, simulation

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David Birchfield

November 2003 **Proceedings of the 2003 ACM SIGMM workshop on Experiential telepresence**

Full text available: pdf(219.84 KB) Additional Information: full citation, abstract, references, index terms

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Keywords: arts, composition, digital audio, generative arts, generative model, generative system, genetic algorithm, multimedia, music, music cognition, music theory, perception

7 WSQ/DSQ: a practical approach for combined querying of databases and the Web

Roy Goldman, Jennifer Widom

May 2000 **ACM SIGMOD Record , Proceedings of the 2000 ACM SIGMOD international conference on Management of data**, Volume 29 Issue 2

Full text available: pdf(223.65 KB) Additional Information: full citation, abstract, references, citings, index terms

We present WSQ/DSQ (pronounced "wisk-disk"), a new approach for combining the query facilities of traditional databases with existing search engines on the Web. WSQ, for *Web-Supported (Database) Queries*, leverages results from Web searches to enhance SQL queries over a relational database. DSQ, for *Database-Supported (Web) Queries*, uses information stored in the database to enhance and explain Web searches. This paper focuses primarily on WSQ, describing a simple, lo ...

8 A simulation of adaptive agents in a hostile environment

Thomas D. Haynes, Roger L. Wainwright

February 1995 **Proceedings of the 1995 ACM symposium on Applied computing**

Full text available: pdf(669.79 KB) Additional Information: full citation, references, citings, index terms

Keywords: autonomous agent, genetic programming, parallel evaluation of fitness, variable fitness function

9 SIGSAM BULLETIN: Computer algebra in the life sciences
Michael P. Barnett
December 2002 **ACM SIGSAM Bulletin**, Volume 36 Issue 4
Full text available: pdf(240.15 KB) Additional Information: full citation, abstract, references

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10 Node sampling: a robust RTL power modeling approach
Alessandro Bogliolo, Luca Benini
November 1998 **Proceedings of the 1998 IEEE/ACM international conference on Computer-aided design**
Full text available: pdf(819.89 KB) Additional Information: full citation, references, citings, index terms

11 Toward the domestication of microelectronics
Joel S. Birnbaum
November 1985 **Communications of the ACM**, Volume 28 Issue 11
Full text available: pdf(1.23 MB) Additional Information: full citation, abstract, citings, index terms, review

The great challenge for computer science in this decade is to make computers usable by everyone. Computers, long viewed as a dehumanizing force, will become the most powerful means of personal creative expression and communication ever known.

12 A sparse matrix representation for production scheduling using genetic algorithms
Simon J. T. Liang, John M. Lewis
February 1995 **Proceedings of the 1995 ACM symposium on Applied computing**
Full text available: pdf(579.43 KB) Additional Information: full citation, references, index terms

Keywords: genetic algorithms, job shop scheduling, representing

13 Engineering e-learning systems (ELS): Patterns for blended, Person-Centered learning: strategy, concepts, experiences, and evaluation
Michael Derntl, Renate Motschnig-Pitrik
March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**
Full text available: pdf(486.82 KB) Additional Information: full citation, abstract, references, index terms

Within the last few years, e-learning has become a focal point in several universities and organizations. While much research has been devoted to producing e-content, describing it with metadata, and to constructing e-learning platforms, less attention has been paid to using technology to improve the learning process in terms of depth and scope. Our research is targeted at filling this gap by considering learning support from a technical as well as socio-psychological perspective. We investigate ...

Keywords: Person-Centered e-Learning (PCeL), blended learning, evaluation, patterns

14 Learning Bayesian classification rules through genetic algorithms
Christoph F. Eick, Daw Jong

December 1993 **Proceedings of the second international conference on Information and knowledge management**

Full text available: pdf(848.77 KB) Additional Information: full citation, references, index terms

15 The genetic algorithm and the Prisoner's Dilemma

Benjamin Hosp

January 2004 **The Journal of Computing in Small Colleges**, Volume 19 Issue 3

Full text available: pdf(208.26 KB) Additional Information: full citation, abstract, references, index terms

The Prisoner's Dilemma is a game theory simulation used by sociologists to study human interactions. This game places two "players" in a situation wherein both of them, as a pair, would be better off if they cooperated with each other, but each of them, individually, is better off if he or she works towards his or her own selfish interests. However, when two players play this game repeatedly, cooperation becomes possible among rational players. In this paper, we will examine a method called the ...

16 Hybrid user interfaces: breeding virtually bigger interfaces for physically smaller computers

Steven Feiner, Ari Shamash

October 1991 **Proceedings of the 4th annual ACM symposium on User interface software and technology**

Full text available: pdf(2.03 MB) Additional Information: full citation, references, citings, index terms

17 The evolution of APL

Adin D. Falkoff, Kenneth E. Iverson

March 1975 **The first ACM SIGPLAN conference on History of programming languages**, Volume 10 , 10 , 17 Issue 2 , 2 , 4

Full text available: pdf(1.13 MB) Additional Information: full citation, abstract, references, citings, index terms

This paper is a discussion of the evolution of the APL language, and it treats implementations and applications only to the extent that they appear to have exercised a major influence on that evolution. Other sources of historical information are cited in References 1-3; in particular, The Design of APL [1] provides supplementary detail on the reasons behind many of the design decisions made in the development of the language. Readers requiring background on the curre ...

18 Reprinted articles: The evolution of APL

Adin D. Falkoff, Kenneth E. Iverson

September 1978 **ACM SIGAPL APL Quote Quad**, Volume 9 Issue 1

Full text available: pdf(1.42 MB) Additional Information: full citation, references

19 Evolutionary computing and optimization: Co-evolving an effective fitness sample: experiments in symbolic regression and distributed robot control

Brad Dolin, Forrest H Bennett, Eleanor G. Rieffel

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We investigate two techniques for co-evolving and sampling from a population of fitness cases, and compare these with a random sampling technique. We design three symbolic regression problems on which to test these techniques, and also measure their relative performance on a modular robot control problem. The methods have varying relative performance, but in all of our experiments, at least one of the co-evolutionary methods outperforms the random sampling method by guiding evolution, with subst ...

Keywords: co-evolution, distributed control, fitness cases, genetic algorithms, genetic programming, robot control, symbolic regression

20 Evolving computer programs using rapidly reconfigurable field-programmable gate arrays and genetic programming

John R. Koza, Forest H. Bennett, Jeffrey L. Hutchings, Stephen L. Bade, Martin A. Keane, David Andre

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This paper describes how the massive parallelism of the rapidly reconfigurable Xilinx XC6216 FPGA (in conjunction with Virtual Computing's H.O.T. Works board) can be exploited to accelerate the time-consuming fitness measurement task of genetic algorithms and genetic programming. This acceleration is accomplished by embodying each individual of the evolving population into hardware in order to perform the fitness measurement task. A 16-step sorting network for seven items was evolved that h ...